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NORTH AMERICAN SPECIES OF MARASMIUS.

A. P. MORGAN.

(Continued from page 247, Vol. II.)

124. MARASMIUS CHRYSOCHAETES B. & C. FUNGI
CUB. 120.

Pileus white, convex, sulcate, umbilicate, depressed around the umbo. Stipe slender, elongated, glabrous, tawny, insititious. Lamellae few, white, rather broad, collariate.

Growing on dead leaves. Pileus 2 mm. in diameter, the stipe 2-3 cm. in length.

125. MARASMIUS GRAMINUM B. & BR. BERKLEY'S
OUTLINES. 1860. *Agaricus graminum* Libert, Pl. Crypt. 1837.

Pileus membranaceous, convex then plane, umbonate, sulcate, very pale rufous. Stipe capillary, glabrous, shining, black, pale at the apex. Lamellae adnate to a free collar, equal, few and very distant (6-8), whitish; spores ovoid, 5-6 mic.

Growing on withered leaves of grasses. Pileus 4-6 mm. in diameter, the stipe 2-5 cm. long.

126. MARASMIUS CURREYI B. & BR. ANN. & MAG.
N. H.

Pileus nearly plane, sulcate, pale rufous, the grooves paler, the umbo tawny. Stipe quite smooth, shining, black, white at the apex. Lamellae few, cream-colored, attached to a collar round the stipe; spores ovoid-oblong, 9-11 x 5-6 mic.

Growing on leaves of grass. Pileus 6-10 mm. in diameter, the stipe 2-3 cm. long.

B. STIPE VELVETY OR PRUINATE.

a. *Pileus Colored.*

127. MARASMIUS ATRO-RUBENS BERK. Journ. Bot. 1842.

Pileus membranaceous, convex, regularly radiate-venose, dark reddish. Stipe very slender, umber, velvety. Lamellae rather close, cultrate, pallid.

Growing on old leaves and dead trunks in woods. Pileus 9-10 mm. in diameter.

128. MARASMIUS THUJINUS PECK, N. Y. REP. 1902.

Pileus membranaceous, hemispheric or convex, often slightly umbilicate, minutely pulverulent-tomentose, distantly striate on the margin, cinereous tinged with lilac. Stipe capillary, glabrous or with a few minute scattered flocci, pallid, sometimes brownish toward the base. Lamellae few, distant, adnate, white.

Growing on fallen leaves of Thuja. Pileus 2-3 mm. in diameter, the stipe 1-2 cm. long, scarcely thicker than a hair.

129. MARASMIUS FELIX MORGAN, SP. NOV.

Pileus membranaceous, convex then explanate, glabrous, faintly plicate-rugulose, rufescent. Stipe more or less elongated, capillary, minutely pubescent, brown or blackish, white at the apex, the base insititious. Lamellae unequal, some of them forked, rather narrow, distant, adnate, white; spores ovoid-oblong, apiculate, $7-9 \times 3-4$ mic.

Growing on old leaves of Platanus, insititious on the petioles and veins. Preston, O. Pileus 2-6 mm. in diameter, the stipe varying in length from 2-8 cm. Pileus pale rufous or nearly white to testaceous, becoming more saturated with the color in drying. A near relative of *M. epiphyllus*. Pers.

b. *Pileus white or whitish.*a'. *Pileus Plicate—Sulcate.*

130. MARASMIUS INSITITIOUS FRIES. HYM. EUR.

Pileus membranaceous, tough, convexo-plane, subumbilicate, at length plicate-sulcate and whitish. Stipe horny, fistulous, floccose-furfuraceous, reddish-brown, tapering downward to the simple, insititious base. Lamellae broadly adnate, unequal, simple, distant, becoming white; spores elliptic-ovoid; 4×2.5 mic.

Growing on fallen leaves of oak, etc. Pileus 5-10 mm. in diameter, the stipe 2-3 cm. in length.

131. MARASMIUS SACCHARINUS FRIES. HYM. EUR.
Agaricus saccharinus Batsch El. Fung. 1784.

Pileus membranaceous, convex, somewhat papillate, glabrous, sulcate and plicate, white. Stipe very slender, flocculose, glabrate, obliquely insititious, reddish. Lamellae broadly adnate, narrow, thick, very distant, reticulate-conjoined, whitish; spores elliptic, 5×3 mic.

Growing on leaves, twigs, etc. Pileus 2-4 mm. in diameter, the stipe 1.5-2.5 cm. long.

b'. Pileus Even or Only Rugulose.

132. MARASMIUS PERFORANS FRIES. HYM. EUR.
Agaricus perforans Hoffman, Nom. Fung. 1789.

Ill-smelling. Pileus submembranaceous, rather plane, without striae, rugulose, glabrous, whitish. Stipe fistulous, equal, velvety, bay-black, the base insititious. Lamellae adnate, simple, rather close, whitish, most of them dimidiate; spores elliptic-ovoid, 5-6 x 2-3 mic.

Growing on leaves of Abies. Pileus 6-10 mm. in diameter, the stipe 2-4 cm. long.

133. MARASMIUS EPIPHYLLUS FRIES. HYM. EUR.
Agaricus epiphyllus Persoon, Synopsis. 1801.

Pileus membranaceous, rather plane, at length umbilicate, glabrous, plicate-rugose, milk-white. Stipe horny, fistulous, slightly velvety, brown below, insititious. Lamellae adnate, few and distant, entire venose, white; spores oblong, 6-7 x 2 mic.

Growing on the petioles and veins of old leaves. Pileus 5-10 mm. in diameter, the stipe 3-5 cm. long.

134. MARASMIUS MINUTISSIMUS PECK, 27 N. Y.
REP. 1874.

Very small, the whole surface invested with a minute glandular pubescence. Pileus membranaceous, convex then explanate, faintly rugulose, whitish. Stipe filiform, brown below, fading gradually to white at the apex, the base insititious. Lamellae few and distant (4-10), white, narrow, adnate, sometimes vein-like and imperfect; spores lance-oblong, 7-10 x 3-4 mic.

Growing on old leaves along the borders of fields next to woods. Pileus 2-5 mm. in diameter, the stipe 6-16 mm. long. The glandular hairs are longest on the lower part of the stipe, becoming smaller upward and on the pileus and most minute on the lamellae. Peck's description is of the smallest plants.

§2. *OMPHALIA. PILEUS SUBMEMBRANACEOUS; THE STIPE CENTRAL, CARTILAGINOUS, FISTULOSE, SOMEWHAT THICKENED UPWARD; THE LAMELLAE TRULY DECURRENT.*

I. CYATHIFORMES. *Pileus submembranaceous, at length depressed, umbilicate or even infundibuliform.*

A. *STIPE GLABROUS.*

135. MARASMIUS VAILLANTII FRIES, HYM. EUR.
Fungus pileo candicante, etc. Vaillant, Bot. Paris, 1727. *Agaricus Vaillantii* Persoon Synopsis. 1801.

Pileus submembranaceous, tough, soon explanate, depressed, plicate-rugose, whitish. Stipe stuffed, glabrous, brown, the apex thickened and paler. Lamellae broad, subdecurrent, thick, distant, white; spores elliptic, 10×6 mic.

Growing on old wood, fallen twigs, leaves, etc. Pileus 1-2 cm. in diameter, the stipe about 2.5 cm. long.

136. MARASMIUS LANGUIDUS FRIES HYM. EUR.
Agaricus languidus Lasch. Linnaea, No. 157.

Pileus a little fleshy, convex, gibbous or umbilicate, flocculose, rugose-sulcate, yellowish and flesh-color, becoming whitish. Stipe stuffed, thickened above, naked and pallid, below brown or blackish and sometimes villose thickened at the base. Lamellae adnate becoming decurrent, distant, narrow, venose-connected; spores $6-7 \times 4$ mic.

Growing on twigs, herbaceous stems, etc. Pileus 10-15 mm. in diameter, the stipe about 2.5 cm. long.

137. MARASMIUS HYPERELLUS FRIES, Nov. SYMB.
1857.

Pileus very thin, membranaceous, explanate, umbilicate, lineate-triate, rugulose when dry, whitish. Stipe filiform, fistulose, glabrous, brown or blackish, encircled by an orbicular base. Lamellae subdecurrent, distant, thin, whitish.

Growing on sticks. Pileus 10-12 mm. in diameter, the stipe 3.5-4 cm. long.

138. MARASMIUS VIRIDI-FUSCUS B. & C. FUNGI
CUB. 103.

Pileus thin, explanate, radiate-striate, pale green. Stipe slender, glabrous, thickened upward, brown or blackish below. Lamellae broad, distant, decurrent, green.

Growing on dead sticks. Pileus 10-12 mm. in diameter, the stipe 12 mm. long.

139. MARASMIUS CYATHIFORMIS B. & C. FUNGI
CUB. 104.

Caespitose. Pileus cyathiform, glabrous, brown when dry. Stipe dilated upward. Lamellae distant, decurrent.

Growing on dead wood. Pileus 2-2.5 cm. in diameter, the stipe 2-3 cm. long and 1 mm. thick.

140. MARASMIUS PURPURASCENS B. & C. FUNGI
CUB. 105.

Pileus thin, infundibuliform, minutely tomentose, striatulate, pale purple, when dry whitish. Stipe glabrous, concolorous. Lamellae close, narrow, decurrent, concolorous.

Growing on sticks in shady woods. Pileus 2 cm. in diameter, the stipe 2-3 cm. long.

B. STIPE VELVETY OR PRUINATE.

141. *MARASMIUS LEUCOCEPHALUS* MONT. SYLL.
CRYPT. 1856.

Pileus membranaceous, convex then plane and depressed, at length infundibuliform, glabrous, white. Stipe cartilaginous, stuffed then hollow, pallid above, brownish below, villous-pruinose with pale tawny flocci, attached by a discoid base. Lamellae unequal, white, narrow in front and obtuse, broader behind, sinuate-adnate and long decurrent.

Growing on fallen sticks. Pileus 6-15 mm. in diameter, the stipe 2-3 cm. long.

142. *MARASMIUS SEMISPARSUS* BERKELEY, CHALL.
EXP. 1875.

Pileus depressed, umber, gray-pulverulent, the margin naked and sulcate. Stipe umber, minutely tomentose, the base somewhat spongy. Lamellae distant, adnate-decurrent, concolorous.

Growing on the petiole of a dead leaf; Bermuda. Pileus about 4 mm. in diameter, the stipe 12 mm. long, twisted and compressed when dry.

143. *MARASMIUS TOMENTOSIPES* PECK, BULL.
TORR. 1902.

Pileus thin, convex, afterward nearly plane, usually umbilicate, glabrous, the margin striate, yellow-brown or ferruginous, brown when dry. Stipe slender, hard, elastic, hollow, brown or black, tomentose. Lamellae narrow, rather distant, unequal, arcuate-decurrent, pale-yellow; spores elliptic, $6-7 \times 3-4$ mic.

Growing in coniferous woods; Idaho. Pileus 1-3.5 cm. in diameter. the stipe 2-4 cm. long and 1 mm. thick.

II. *CLAVIFORMES*. *Pileus membranaceous, campanulate or convex, never depressed.*A. *STIPE GLABROUS.*144. *MARASMIUS ALBO-FUSCUS* B. & C. FUNGI
CUB. 101.

Pileus plane, umbonate, thin, striate, reticulate, white, the center brown. Stipe solid, glabrous, slender, slightly thickened above. Lamellae few, distant, broad, adnate-decurrent, the interstices trabeculate.

Growing on logs in woods. Pileus 12 mm. in diameter, the stipe 2-3 cm. long.

145. *MARASMIUS ALBICEPS* PECK, 43 N. Y. REP.
1889.

Pileus membranaceous, either convex or campanulate, glabrous, white. Stipe corneous, setiform, glabrous, black, paler at the apex, attached to the matrix by radiating brown hairs or fibers. Lamellae broad, distant, adnate- or arcuate-decurrent, white; spores obovoid or subelliptic, $6-8 \times 3-4$ mic. usually containing a shining guttule.

Growing among fallen leaves in woods. Pileus about 4 mm. in diameter, the stipe 2-3 cm. long.

B. STIPE VELVETY OR PRUINATE.

146. MARASMIUS CLAVAEFORMIS BERKELEY, LEA'S CAT. 1849.

Pileus convex, tough, white. Stipe slender, tapering downward and attached by a minute bulb, brown below, and clothed with a depressed velvety pubescence, thickened above and white sprinkled with furfuraceous particles. Lamellae distant, broad in front, behind long decurrent, whitish inclining to flesh-color.

Growing on dead sticks. Pileus 4 mm. in diameter, the stipe 2.5 cm. long.

147. MARASMIUS DECURRENS PECK, 24 N. Y. REP. 1871. *Marasmius resinosus* Saccardo. Sylloge V.

Pileus thin, convex, minutely tomentose, grayish or tawny. Stipe slender, firm, equal, gray, minutely tomentose. Lamellae arcuate-decurrent, subdistant, narrow, tapering toward each end, whitish with discolored edge, interspaces rugose-reticulated.

Growing on the ground in a shaded ravine. Pileus 8-12 mm. in diameter, the stipe 3-5 cm. long and 1 mm. thick.

148. MARASMIUS ACULEATUS PATONILLARD, BULL. Soc. Myc. 1900.

Pileus convexo-campanulate, thin, coriaceous, semipellucid, densely orchaceous-tomentose; the hairs straight, convergent-fasciculate, thus forming stellate warts. Stipe slender, tapering upward, clothed with a short, velvety, ochraceous tomentum. Lamellae few, distant, broadly adnate, subdecurrent.

Growing on the ground; Guadaloup. Pileus 2 cm. in diameter, the stipe 2 cm. long. The pileus bristles with warts like those of a Lycoperdon.

§ 4. *PLEUROTUS. PILEUS MORE OR LESS IRREGULAR; THE STIPE EXCENTRIC, LATERAL OR WANTING. COMMONLY GROWING ON WOOD.*

A. STIPE EXCENTRIC.

a. Lamellae colored.

149. MARASMIUS PURPUREUS B. & C. FUNGI CUB. NO. 135. 1867.

Pileus convex then plane, thin, sulcate, tomentose, purple. Stipe excentric, very short, solid, thickened upward, whitish. Lamellae broad, distant, purple, adnexed, the interstices even.

Growing on stumps in woods. Pileus 2 cm. in diameter, the stipe 2-4 mm. long.

150. *MARASMIUS CORACIPES* B. & C. FUNGI CUB. 93.

Pileus convex, thin, even, pale brown. Stipe subexcentric, concolorous with the pileus, rather thick, sulcate, glabrous. Lamellae close, narrow, unequal, adnexed, pale rufous.

Growing in woods. Pileus 12-15 mm. in diameter, the stipe 3.5-4 cm. long.

151. *MARASMIUS OBLIQUUS* B. & C. FUNGI CUB. 136.

Pileus flabelliform, glabrous, polished, the margin involute. Stipe oblique, very short, cylindric. Lamellae distant, adnate-decurrent, brown when dry.

Growing on dead wood in ravines. Pileus 2 cm. in diameter, the stipe 2 mm. long.

b. Lamellae white.

152. *MARASMIUS CAESPITOSUS* PECK, 26 N. Y. REP. 1873.

Pileus fleshy, convex, even, brown with a lilac tint, sometimes irregular. Stipe central or excentric, stuffed or hollow, pruinose. Lamellae close, free, somewhat united with each other at the stipe, narrowed outwardly, white.

Growing caespitously on birch wood. Pileus 1-2 cm. in diameter, the stipe 3-5 cm. long.

153. *MARASMIUS SEMIUSTIS* B. & C. FUNGI CUB. 102.

White, rufus when dried. Pileus excentric, convex then plane, rugose or sulcate, glabrous. Stipe short, compressed, glabrous. Lamellae distant, reaching the stipe, the spaces between rugose.

Growing on rotten wood. Pileus 8-12 mm. in diameter, the stipe 6-7 mm. long.

B. STIPE LATERAL AND VERY SHORT.

a. Lamellae colored.

154. *MARASMIUS CURTISII* SACC. N SYD. SYLLOGE XIV. *MARASMIUS HAEMATODES* B. & C. FUNGI CUB. 139.

Pileus helmet-shaped, rigid, glabrous, deep red-brown. Stipe none. Lamellae venose, thick, concolorous.

Growing on dead sticks. Pileus 2 mm. in breadth.

155. *MARASMIUS CONCOLOR* B. & C. FUNGI CUB. 138.

Pileus helmet-shaped, irregular, lobed, dull tawny, pulverulent. Stipe none. Lamellae broad, concolorous.

Growing on sticks in woods. Pileus 2-4 mm. in breadth.

156. MARASMIUS SABALI BERKELEY, CHALL. EXP. II.
1878.

Pileus reniform, tomentose, at length resupinate and calcareous. Stipe very short. Lamellae thick, entire, rounded behind, distant, adnate; spores subglobose, 8 mic. in diameter.

Growing on petioles of *Sabal Palmetto*; Bermuda. The whole plant reddish when dry.

157. MARASMIUS ASPERIFOLIUS PATONILLARD,
JOUR. BOT. 1889.

Pileus sessile, resupinate or reflexed, glabrous, striate, pale brown. Lamellae distant, concolorous or paler, unequal, hirsute, attached to a hairy stipitiform tubercle, cystidia numerous, clavate, prominent.

Growing on bark of *Murraya*; Martinique.

158. MARASMIUS CALOSPORUS PAT. IN Duss. EN.
1903.

Pileus sessile, resupinate, at first pezizoid, then split and almost dimidiate, very thin, membranaceous, white, glabrescent. Lamellae few, white-yellowish, distant, radiating from an eccentric point; spores ovoid, smooth, 10×7 mic.

Growing in clusters on rotten branchlets of *Clibadium*, Guadeloupe. Pileus minute, scarcely 2 mm. in breadth.

b. *Lamellae white or pallid.*

159. MARASMIUS MERULINUS B. & C. FUNGI CUB.

133. *A.* (COLLYBIA) MERULIUS BERTERO MS. IN MONTAGNE,
FLORA FERNAND. 1835.

"Lamellae in the center, agaricine, at the margin meruline." *Montagne*. It is said to differ from *M. spaniophyllus* by its white pileus.

Growing on sticks in woods; "Alabama." *Berk.*

160. MARASMIUS ARACHNOIDEUS B. & C. FUNGI
CUB. 137.

All white. Pileus resupinate, adnate, the stipe very short, at length obliterated, arising from an arachnoid mycelium. Lamellae few.

Growing on dead wood. Pileus 2 mm. in breadth.

161. MARASMIUS NIDULUS B. & C. FUNGI CUB.
134.

Pileus resupinate, at first pezizaform, at length free on one side, pruinose-floccose, white. Stipe very short, pruinose. Lamellae few, thick, ventricose.

Growing on sticks in woods. Pileus 2-6 mm. in breadth.

162. MARASMIUS HAWAIIENSIS P. HENNINGS, MON-
SUNIA I. 1899.

Pileus membranaceous, tough, sessile, reniform or subflabellate, yellow-brown, subrugulose, the margin entire or incised. Lamellae radiating behind, rather broad, few, branched, reticulate, anastomosing, pallid.

Growing on trunks covered with mosses; Hawaia. Pileus 1-3 cm. broad, 1.5-2 cm. long.

UREDINEOUS CULTURE EXPERIMENTS WITH PUC-CINIA SORGHII, 1905.¹

W. A. KELLERMAN.

For three seasons previous, reports of infection experiments have been made dealing with quite a number of Rust species. This fourth report is, unfortunately, extremely brief; due to the fact that a Winter mycological collecting trip was made to Guatemala that lasted into Spring. Also other work that had been in the meantime neglected, demanded much time and, besides, class duties in college were pressing. Consequently nothing was carried to completion this season except the Maize Rust experiments which can be outlined in a few sentences.

First let me recur to the completed work with this species one year ago. At that time I secured what was taken to be infection of Maize plants direct with teleutospores (but below will be differently interpreted); and thereafter extended inoculation work was carried on with the uredospores so secured.

SUMMARY OF PREVIOUS WORK.

No inoculations with Maize Rust were on record previous to 1904. Work for that season was published in the *Journal of Mycology*, 11:26-33, Jan. 1905, and the point settled beyond possible doubt were these: That, using uredospores, the species was readily transferred to any and all the "agricultural species" of Maize; that teosinte (*Euchlaena luxurians*) was also a host for this species of Rust (not before reported); that attempts to inoculate *Sorghum vulgare*, *Saccharum officinarum*, and *Triticum dactyloides* were unfruitful.

AN AECIDIUM NOT DETECTED.

In the progress of the work no Aecidium was encountered, though spores were taken from teleutosporic pustules that had been exposed all winter (on sweet corn), and with sowings

¹ Contributions from the Botanical Laboratory of the Ohio State University, XXIII.